be helped by blowing the Coals a little, or pouring on new Lead that is hotter: but the cooler the Lead, the larger the Shot; and the hotter, the ſmaller; when it is too hot, the drops will crack and fly; then you muſt ſtop pouring on new Lead, and let it cool; and ſo long as you obſerve the right temper of the heat, the Lead will conſtantly drop into very round Shot, without ſo much as one with a tail in many pounds.

When all is done, take your Shot out of the Pail of water, and put it in a Frying-pan over the fire to dry them, which muſt be done warily, ſtill ſhaking them that they melt not; and when they are dry you may ſeparate the ſmall from the great, in Pearl Sives made of Copper or Lattin let into one another, into as many ſizes as you pleaſe. But if you would have your Shot larger then the Trencher makes them, you may do it with a Stick, making them trickle out of the Ladle, as hath been ſaid.

If the Trencher be but toucht a very little when the Lead ſtops from going through it, and be not too cool, it will drop again, but it is better not to touch it at all. At the melting of the Lead take care that there be no kind of Oyl, Greaſe, or the like, upon the Pots, or Ladles, or Trencher.

The Chief cauſe of this Globular Figure of the Shot, ſeems to be the Auripigmentum; *for, as ſoon as it is put in among the melted Lead, it loſes its ſhining brightneſs, contracting inſtantly a grayiſh film or skin upon it, when you ſcum it to make it clean with the Ladle. So that when the Air comes at the falling drop of the melted Lead, that skin conſtricts them every where equally: but upon what account, and whether this be the true cauſe, is left to further diſquiſition.*

Much after this ſame manner, when the Air is exceeding cold through which it paſſes, do we find the drops of Rain, falling from the Clouds, congealed into round Hail-ſtones by the freezing Ambient.

To which may be added this other known Experiment, That if you gently let fall a drop of *water* upon ſmall *ſand* or *duſt*, you ſhall find, as it were, an artificial *round ſtone* quickly generated. I cannot upon this occaſion omit the mentioning of the ſtrange kind of *Grain*, which I have obſerved in a *ſtone* brought from *Kettering* in *Northamptonſhire*, and therefore called by Maſons *Kettering-Stone*, of which ſee the Deſcription.

Which

Which brings into my mind what I long ſince obſerved in the fiery Sparks that are ſtruck out of a Steel. For having a great deſire to ſee what was left behind, after the Spark was gone out, I purpoſely ſtruck fire over a very white piece of Paper, and obſerving diligently where ſome conſpicuous ſparks went out, I found a very little black ſpot no bigger then the point of a Pin, which through a *Microſcope* appeared to be a perfectly round Ball, looking much like a poliſht ball of Steel, inſomuch that I was able to ſee the Image of the window reflected from it. I cannot here ſtay (having done it more fully in another place) to examine the particular Reaſons of it, but ſhall only hint, that I imagine it to be ſome ſmall parcel of the Steel, which by the violence of the motion of the ſtroke (moſt of which ſeems to be impreſt upon thoſe ſmall parcels) is made ſo glowing hot, that it is melted into a *Vitrum*, which by the ambient Air is thruſt into the form of a Ball.

A Fifth thing which I thought worth Examination was, Whether the motion of all kind of Springs, might not be reduced to the Principle whereby the included *heterogeneous fluid* ſeems to be moved; or to that whereby two Solids, as Marbles, or the like, are thruſt and kept together by the *ambient fluid*.

A Sixth thing was, Whether the Riſing and Ebullition of the Water out of Springs and Fountains (which lie much higher from the Center of the Earth then the Superficies of the Sea, from whence it ſeems to be derived) may not be explicated by the riſing of Water in a ſmaller Pipe: For the Sea-water being ſtrained through the Pores or Crannies of the Earth, is, as it were, included in little Pipes, where the preſſure of the Air has not ſo great a power to reſiſt its riſing: But examining this way, and finding in it ſeveral difficulties almoſt irremovable, I thought upon a way that would much more naturally and conceivably explain it, which was by this following Experiment: I took a Glaſs-Tube, of the form of that deſcribed in the ſixth Figure, and chuſing two *heterogeneous fluids*, ſuch as Water and Oyl, I poured in as much Water as filled up the Pipes as high as A B, then putting in ſome Oyl into the Tube A C, I depreſt the ſuperficies A of the Water to E, and B I raiſed to G, which was not ſo high perpendicularly as the ſuperficies of the Oyl F, by the ſpace F I, wherefore the proportion of the gravity of theſe two Liquors was as G H to F E.

This Experiment I tried with ſeveral other Liquors, and particularly with freſh Water and Salt (which I made by diſſolving Salt in warm Water) which two though they are nothing heterogeneous, yet before they would perfectly mix one with another, I made trial of the Experiment: Nay, letting the Tube wherein I tried the Experiment remain for many dayes, I obſerved them not to mix; but the ſuperficies of the freſh was rather more then leſs elevated above that of the Salt. Now the proportion of the gravity of Sea-water, to that of River-water, according to *Stevinus* and *Varenius*, and as I have ſince found pretty true by making trial my ſelf, is as 46. to 45. that is, 46. Ounces of the ſalt Wa-

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